

REMARKS

Claims 14 to 19 are pending. Claims 14 to 19 have been amended. Claims 1 to 13 have been withdrawn from consideration. The Examiner's reconsideration of the rejection is respectfully requested in view of the amendments and remarks.

Claims 14 to 19 have been rejected under 35 U.S.C. 103(a) as being unpatenable over Vallett (U.S. Patent No. 6,078,057) in view of Goruganthu et al. (U.S. Patent No. 6,277,659). The Examiner stated essentially that the combined teachings of Vallett and Goruganthu teach or suggest all the limitations of claims 14 to 19.

Claim 14 claims, "A memory device having an accessible source such that device parameters can be determined, comprising: a dimple ground into a back-side of a semiconductor substrate of the device; a trench milled from the bottom portion of the dimple exposing a portion of a vertical trench fill; and a conductive material connecting the vertical trench fill and a buried plate of the device."

There is no suggestion or motivation in Vallett or Goruganthu to combine the teachings of the references. The motivation to combine Vallett and Goruganthu must be present in the references. While the Examiner stated that the "motivation to include the teaching by Goruganthu et al in the invention by Vallett stems from the increased cost effectiveness achieved in aiming the thinning procedure at the area to be tested, rather than the entire back-side area", this motivation is not taught or suggested in the references themselves. Therefore, the Examiner's reconsideration of the rejection is respectfully requested.

Even assuming, *arguendo*, that Vallett and Goruganthu are combinable, claim 14 is believed to be allowable for additional reasons.

Vallett teaches a semiconductor device having a backside probing capability. (See Title.) Vallett teaches the use of test points "consisting of a conductive material at 8, and an

insulating layer at 9” (See Col. 1, lines 34 to 35.) Vallett teaches that the test points are distinct from active circuit areas, extending significantly below any active circuit areas. (See Col. 4, lines 15 to 19.) Vallett does not teach a system for testing a capacitor of a memory device comprising a buried plate. Vallett does not teach, “a conductive material connecting the vertical trench fill and a buried plate of the device”, as claimed in claim 14. Therefore, Vallett does not teach all the limitations of claim 14.

Goruganthu teaches substrate removal using a sensing acoustic energy in a semiconductor device. (See Abstract.) Goruganthu teaches depositing a metal to electrically accessing a node. (Col. 2, lines 35 to 37.) However, Goruganthu does not teach or suggest, “a conductive material connecting the vertical trench fill and a buried plate of the device”, as claimed in claim 14. Therefore, Goruganthu does not cure the deficiencies of Vallett.

The teachings of Vallett and Goruganthu, taken individually or in combination fail to teach, “a conductive material connecting the vertical trench fill and a buried plate of the device”, as claimed in claim 14.

Claims 15 to 19 depend from claim 14. The dependent claims are believed to be allowable for at least the reasons given for claim 14. At least claim 15 is believed to be allowable for addition reasons.

Claim 15 claims, “wherein the trench is milled into a portion of the vertical trench fill and the buried plate.”

Vallett teaches that a small portion of the insulating material is removed thereby exposing the conductive fill material of the test points to be probed. (See Col. 4, lines 33 to 41.) The test points of Vallett do not include a buried plate. Therefore, Vallett fails to teach milling a trench “into a portion of the vertical trench fill and the buried plate” as claimed in claim 15.

Goruganthu teaches substrate removal using a sensing acoustic energy in a semiconductor device. (See Abstract.) Goruganthu does not teach or suggest a memory device, much less milling a trench "into a portion of the vertical trench fill and the buried plate" as claimed in claim 15. Therefore, Goruganthu does not cure the deficiencies of Vallett.

The Examiner's reconsideration of the rejection is respectfully requested.

Accordingly, claims 14 to 19 are believed to be allowable for at least the reasons stated. The Examiner's reconsideration of the rejection is respectfully requested. For the forgoing reasons, the application is believed to be in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,



Nathaniel T. Wallace
Reg. No. 48,909
Attorney for Applicants

F. CHAU & ASSOCIATES, LLP
1900 Hempstead Turnpike, Suite 501
East Meadow, New York 11554
(516) 357-0091
(516) 357-0092 (FAX)